

T16D08 – (16.3) Activation Energy Notes

Name

1. 16.3.1 Describe qualitatively the relationship between the rate constant (k) and temperature (T). (2)
 - a. What happens to the rate constant when temperature changes? (provide graph from next slide too)
 - b. What equation do we use to represent this relationship? (provide the equation)
 - c. What are the variables associated with the Arrhenius equation? (also include the exponential factor)
 - d. When the Arrhenius equation is rearranged we get the following expression equal to $\ln k =$
2. 16.3.2 Determine activation energy (E_a) values from the Arrhenius equation by a graphical method. (3)
 - a. What does the slope of the Arrhenius plot produce?
 - b. What can we calculate from the Arrhenius plot and Arrhenius equation?
 - c. Provide a labelled example of the Arrhenius plot:
 - d. Draw a graph $\ln k$ vs $1/T$ for two reactions with different E_a 's:

e. Briefly describe each of the types of catalysts:

i. Homogeneous

ii. Heterogeneous

iii. Enzymes

f. Describe the meaning of each:

i. Promoters

ii. Inhibitors

iii. Catalysts Poisons